

WHAT IS CLAIMED IS:

1. An adjustable accumulator having a volume for delivering a chemical, said adjustable accumulator comprising:

a hollow outer tube having a first open end and a second end connected to a first valve; and

a hollow inner tube having a first open end and a second end connected to a second valve, said first open end of the inner tube adapted to movably and securely connect to the first open end of the outer tube so as to retain said chemical within said volume, said volume being the space enclosed within the outer tube, the inner tube, the first valve and the second valve.

2. The adjustable accumulator of Claim 1, wherein the outer tube and the inner tube are cylindrical.

3. The adjustable accumulator of Claim 1, wherein

the outer tube further comprises at least one drum extending from said outer tube; wherein

said drum has an interior; and wherein

said volume comprises said interior when said inner tube is adjusted to a position so that the interior of said drum is in fluid communication with said volume.

4. The adjustable accumulator of Claim 3, wherein the at least one drum has a shape selected from the group consisting of oval, circular, and any of the polygons.

5. The adjustable accumulator of Claim 3, wherein said drum does not surround the entire outer tube.

6. The adjustable accumulator of Claim 3, wherein

said drum further comprises at least one partition to separate said interior of the drum into at least two compartments; and wherein

said compartment has a compartment interior and said volume comprises said compartment interior when said inner tube is adjusted to a position so that the compartment interior is in fluid communication with said volume.

7. The adjustable accumulator of Claim 6, wherein at least one compartment is detachable from the adjustable accumulator.

8. The adjustable accumulator of Claim 6, wherein at least two compartments are substantially identical in size and shape.

9. The adjustable accumulator of Claim 6, wherein the partition is downwardly sloped toward to the inner tube.

10. The adjustable accumulator of Claim 1, wherein said chemical comprises gas, liquid, solid, or any combination thereof.

11. The adjustable accumulator of Claim 1, further comprising at least one O-ring to retain the chemical in the adjustable accumulator.

12. The adjustable accumulator of Claim 1, further comprising at least one adjustable retainer that holds the inner tube and the outer tube at a desired position.

13. The adjustable accumulator of Claim 12, wherein the retainer is a setscrew.

14. The adjustable accumulator of Claim 12, wherein the retainer is a spacer.

15. The adjustable accumulator of Claim 12, wherein the retainer is a shaft or jack.

16. A system for sterilizing equipment, said system comprising:  
an adjustable accumulator according to Claim 1, in which said chemical is a germicide;

a germicide reservoir in fluid communication with said adjustable accumulator so as to deliver said germicide to said adjustable accumulator; and  
a sterilization chamber in fluid communication with said adjustable accumulator so as to receive said germicide from said adjustable accumulator.

17. The system of Claim 16, wherein  
the outer tube further comprises at least one drum extending from said outer tube; wherein  
said drum has an interior; wherein  
said volume comprises said interior when said inner tube is adjusted to a position so that the interior of said drum is in fluid communication with said volume.

18. The system of Claim 17, wherein  
said drum further comprises at least one partition to separate said interior of the drum into at least two compartments; wherein  
said compartment has a compartment interior and said volume comprises said compartment interior when said inner tube is adjusted to a position so that the compartment interior is in fluid communication with said volume.

19. The system of Claim 16, further comprising a vaporizer, wherein  
said vaporizer is in fluid communication with said adjustable accumulator via said second valve and is in fluid communication with said sterilization chamber.

20. The system of Claim 16, further comprising a vacuum pump in fluid communication with said sterilization chamber.

21. The system of Claim 16, further comprising a source of plasma.

22. The system of Claim 16, wherein said first valve is located between said adjustable accumulator and said sterilization chamber and said second valve is located between said adjustable accumulator and said reservoir.

23. The system of Claim 16, wherein said germicide comprises hydrogen peroxide.

24. A method for sterilizing an article in a chamber, said method comprising:  
placing said article in said chamber;  
delivering a volume of germicide from a reservoir containing germicide to said chamber via an adjustable accumulator according to Claim 1 in which chemical is said germicide; and  
contacting said germicide with said article; thereby  
sterilizing said article in said chamber.

25. The method of Claim 24, further comprising evacuating said chamber.

26. The method of Claim 24, further comprising vaporizing said germicide.

27. The method of Claim 24, wherein  
the outer tube further comprising at least one drum extending from said outer tube; wherein  
said drum has an interior; and wherein  
said volume comprises said interior when said inner tube is adjusted to a position so that the interior of said drum is in fluid communication with said volume.

28. The method of Claim 24, wherein said drum further comprises at least one partition to separate said interior of the drum into at least two compartments; wherein

said compartment has a compartment interior and said volume comprises said compartment interior when said inner tube is adjusted to a position so that the interior of said compartment is in fluid communication with said volume.

29. The method of Claim 24, wherein said germicide comprises hydrogen peroxide.

30. The method of Claim 24, further comprising opening and/or closing said second valve between said adjustable accumulator and said reservoir.

31. The method of Claim 24, further comprising opening and/or closing said first valve between said adjustable accumulator and said chamber.

32. The method of Claim 24, further comprising moving said inner tube and/or said outer tube so as to adjust the volume of the adjustable accumulator.

33. The method of Claim 26, wherein the vaporizing step comprises opening said second valve.